

## REMARKS

### Amendments

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In the specification, page 10 has been amended to provide explicit counterparts for

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- (a) the requirement of a number of claims that the crystalline polymer is present in amount such that it thickens the oil, and
- (b) the requirement of Claim 32 (as amended) for the presence of specified oils.

In the claims

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- (a) Claim 32 has been amended to insert the names of specific compounds identified in column 3, lines 51-59 and 64-65 of U.S. Patent No. 5,736,125 (Morawsky) in place of the references to "oily esters derived from a long-chain acid and/or alcohol" and "long-chain alcohols". U.S. Patent No. 5,736,125 is of record, is referred to in the application as filed (see page 1, lines 19-20), and is now incorporated by reference).

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- (b) A minor clerical error has been corrected in Claim 45.
- (C) New claims 47-51 have been added. Claim 47 is an independent Claim which is similar to Claim 1 except that it specifies

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- (i) that composition is free of water, and
    - (ii) that the SCC polymer is present in amount 2-10%.
- Basis for Claim 47 is on page 10, lines 14-18. Basis for claims 48-51, which are dependent on Claim 47, is in claims 2-5.

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It is submitted that the requested amendments can properly be made at this stage, even if the finality of the rejection is maintained, since they do not raise any new issues and put the claims in better form for any appeal that may be necessary. With regard to claims 47-51, these claims have been inserted in view of the

Examiner's helpful statement (at the end of paragraph 4 of the Office Action) that the range of 2-10% would be acceptable as a limitation on the amount of SCC polymer.

The Rejections under 35 U.S.C. 112

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Applicants respectfully traverse

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(1) the rejection of claims 1-5, 9-12, 20, 37 and 38 under 35 U.S.C. 112, first paragraph, as "containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention",

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(2) the rejection of claims 1-5, 9-12, 20, 37 and 38 under 35 U.S.C. 112, first paragraph, as "containing subject matter which was not described in the specification in such a way as to enable one skilled in the art... to make and/or use the invention",

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(3) the rejection of claims 21-25, 39 and 40 under 35 U.S.C. 112, first paragraph, as "containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors had possession of claimed invention", and

(4) the rejection of claims 32-36, 43 and 44 under 35 U.S.C. 112, second paragraph, as being indefinite for "failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention",

insofar as those rejections can be understood and insofar as they are applicable to the amended claims, for the reasons set up below.

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1. The Rejection of Claims 1-5, 9-12, 20, 37 and 38 for Lack of Written Description

Page 2, lines 1-8, of the specification as filed, states:

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*We have discovered, in accordance with the present invention, that a broad range of side chain crystalline (SCC) polymers can be used to thicken oils.....*

Consistent with this initial statement of the invention, the remainder of the specification constantly refers to the fact that the purpose and result of adding the crystalline polymers to the oils is to produce a thickened oil composition. Reference may be made, for example to the following passages.

- 5        *A thickened oil composition* (page 3, lines 9 and 22, and line 1 of claims 1, 9, 15 and 20)  
         *using these SCC polymers as thickening agents* (page 4, line 14),  
         *the SCC polymers used as thickeners in the present invention* (page 6, line 14),  
         *when the SCC polymer is used to thicken an oil or mixture of oils which is free of*  
10       *water...* (page 8, lines 27-28)  
         *the thickening polymer* (page 9, lines 30, page 10, lines 2 and 4)  
         *the polymeric thickener* (page 5, line 29, page 6, line 12, and page 10, lines 14 and 22 ),

These generalized references to the use of the SCC polymers as thickening agents, and to the production of thickened oil compositions, inherently disclose that the SCC polymer is used in an amount sufficient to thicken the oil. While the precise words "is present in amount of such that it thickens the oil" are not used, Applicants submit that there cannot be the slightest doubt that those words do no more than express an inherent disclosure of the application as filed.

20        2.        The Rejection of Claims 1-5, 9-12, 20, 37 and 38 for Lack of Enablement.

Claims 1-5, 9-12, 20, 37 and 38 have been rejected for lack of enablement. The only support for this rejection is the Examiner's assertion that

- 25        *There is nothing in the specification to guide one of ordinary skill in the art to determine the level of concentration in which the polymer starts to thicken the oil.*

The specification as filed contains, on page 9, lines 14-18, an indication of the amounts of the SCC polymer which are preferably used to thicken the oil. In addition, specification includes specific examples of thickened oils. The thickening of oils by the addition of suitable additives is a well-known technology, as evidenced by the numerous

prior art documents which are of record in this application. For example, U.S. Patent No. 5,736,125 (Morawsky), which is referred to in the application as filed (see page 1, lines 19-20) and which is now explicitly incorporated by reference, refers to "compositions in which the oil is thickened using copolymers" (column 1, lines 5-6) and states in column 3, lines 19-21

*In the compositions, the amount of thickening copolymer... is present in an amount sufficient to thicken the composition to the desired thickness.*

Those skilled in the art will have no difficulty, therefore, having regard to their own knowledge, the disclosure of this application, and routine experimentation, in determining the amounts of SCC polymer to be used for thickening oils. Applicants submit, therefore, that the specification contains enablement commensurate in scope with the protection sought by the claims. It is well-settled law that under such circumstances, a rejection of lack of enablement must be withdrawn unless the Examiner substantiates the rejection by reason or evidence. For example, the CCPA, in *in re Budnick*, 190 USPQ 422, observed

*Where an applicant has asserted that the specification contains enablement commensurate in scope of the protection sought by the claims, but the Examiner is of the opinion that the disclosure is not enabling, he has the burden of substantiating his doubts concerning enablement with reason or evidence.*

In the present case, the Examiner has not substantiated his doubts in anyway. He has merely **asserted** that the specification is not enabling. It is submitted, therefore, that the rejection should be withdrawn.

(3) The rejection of claims 21-25, 39 and 40 for lack of written description.

The Office Action states, in connection with this rejection,

*The "at least 2% by weight" concentration level of the SCC polymer cannot be found in the specification. 2-7%, 2-10% and 7-10% by weight are acceptable.*

As noted above, the generalized references to the use of the SCC polymers as thickening agents, and to the production of thickened oil compositions, inherently disclose the use of any amount of the SCC polymer that will result in thickening of the

oil. The passage in the specification which refers to the **preferred** amounts of SCC polymer, namely Page 10, lines 14-18, of the specification as filed, reads (emphasis added):

*The amount of the polymeric thickener **preferably** used varies with the application. It is **usually** unnecessary for the amount of the thickener to be more than 10% by weight, based on the amount of the oil. Smaller amounts such as 2 to 7%, based on the weight of the oil in compositions which are free of water, and 0.5 to 5% based on the weight of the composition in water-in-oil emulsions, are often effective.*

This passage explicitly recites the 2% value which is the minimum stated in claims 21-25, 39 and 40, and makes it clear that the 2-7% range is exemplary, not mandatory ("**such as** 2-7%"). This passage also clearly discloses the use of amounts more than (or less than) 10%. Thus the phrase "It is usually unnecessary for the amount... to be more than 10%" clearly contemplates that in some cases more than 10% may be used.

It is submitted that under these circumstances, there is indeed a written description, in the specification as filed, of the limitation "at least 2%" in claims 21-25, 39 and 40.

4. The Rejection of Claims 32-36, 43 and 44 as indefinite.

The terms which gave rise to this rejection have all been replaced by narrow and more precise terms, thus obviating this rejection.

The Rejections under 35 U.S.C. 102 and 35 U.S.C. 103

Applicants respectfully traverse

(1) the rejection of claims 1-5, 9-12, 20, 37 and 38 under 35 U.S.C. 102 as anticipated by Mueller (U.S. Patent No. 5,281,329), and

(2) the rejection of claims 1-5, 9-12, 20, 32-38, 43 and 44 under 35 U.S.C. 103 as unpatentable over Mueller,

insofar as those rejections are applicable to the amended claims, for the following reasons.

1. The Rejections of Claims 1-5, 9-12, 20, 37 and 38 under 35 U.S.C. 102

Paragraph 14 of the Office Action sets out the following bases for these rejections.

(a) *Since the minimum amount of SCC polymer necessary to thicken the oil is not known, the limitation is meaningless... new matter and not enabling.*

For the reasons set out in detail above, Applicants believe that the limitation (presumably the limitation that the SCC polymer is present in amount such that it thickens the oil) is properly included in the rejected claims, and must, therefore, be given effect when considering any rejection under 35 U.S.C. 102 or 103.

(b) *Mueller does not use the SCC polymer as a thinner, but as a pour point depressant, i.e. a freezing point depressant.*

It is of course correct that Mueller uses the SCC polymer as a pour point depressant. However, it is also true that Mueller consistently refers to the SCC polymers as "flow improvers", and that in Mueller's disclosure, the effect of the SCC polymer is to make the oil more easily pourable (i.e. "thinner"). This effect is demonstrated specifically in Examples 8-13 of Mueller. For example, in Example 8, the oil without any additive cannot be poured (i.e. is very thick) at all temperatures below 30 °C, whereas, with the additives, the oil is pourable at lower temperatures. In view of these facts, Applicant do not understand why the Examiner apparently thinks that it is to both possible and relevant to distinguish between use of the SCC polymer as a pour point depressant and as a thinner. In any event, whatever the precise words used, the fact remains that Mueller's objective is totally different from Applicants' objective. As the last response put it, Mueller takes an oil that is thick and makes it fluid, whereas Applicants take an oil that is fluid and makes it thick.

(c) *What happens to the viscosity when SCC polymer is added in an amount of less than 1%, is unknown.*

Applicants do not understand whether this comment is meant to apply to the Mueller reference or to the claimed invention, or its significance in either case.

5 (d) *The only thing we know from applicant's specification that the effective thickening amount can be between 2 and 10%.*

Applicants are uncertain what is meant by this statement. It is true that it is known from Applicants' specification that the effective thickening amount **can be** between 2 and 10%. But it is not correct to say that it is known from Applicants' specification that the effective thickening amount **must** be between 2 and 10%. On the contrary, as pointed out above, Applicants' specification teaches one of ordinary skill in the art that the SCC polymer can be used in any amount that is effective, and in particular that in the effective thickening amount can be more than 10% or less than 2%.

15 (e) *Since applicant is trying to cover the 1-2 % range with their new limitation, the 2-10 % range limitation is meaningless.*

The limitation that the SCC polymer is present "in amount such that it thickens the oil" means what it says. The Examiner is incorrect in characterizing it as "trying to cover the 1-2% range".

20 2. The Rejection of Claims 1-5, 9-12, 20, 32-38, 43 and 44 under 35 U.S.C. 103.

Paragraph 17 of the Office Action sets out the following basis for this rejection.

*Mueller is useful with petroleum oil fractions. See column 3, line 60.*

25 *Since mineral oils and vaseline oils are petroleum oil fractions, the use of the pour point depressant of Mueller in Applicant's claimed compositions, would be clearly obvious... Also it would have been obvious... to add the polymers of Mueller to the oil of Mueller without diluting them with a solvent, in order to avoid the necessary steps of dealing with environmentally harmful solvents.*

It is true that column 3, line 60, of Mueller refers to "petroleum oil fractions". However, the quoted phrase **is only part of** a sentence which runs from column 3, line 60 to column 4, line 2. The complete sentence makes it clear that Mueller is not concerned with **all** petroleum oils and petroleum oil fractions, but only with crude oils,  
5 vacuum gas oils having a boiling point of 320-500°C, and residual oils which distill above 350°C. Furthermore, the remainder of Mueller makes it clear that Mueller's starting materials are always oils whose "ability... to flow is lowered or entirely prevented" by the "paraffins contained therein" (column 1, lines 14-19), and that the effect of adding the SCC polymer to them is to improve their flow characteristics. It is,  
10 therefore, incorrect to conclude that the mineral oils and vaseline oils referred to in Applicants' claim 21 are disclosed in Mueller. Still more is incorrect to say that it is obvious to use SCC polymers in compositions in which their presence produces an effect (thickening) diametrically opposed to that desired by Mueller.

15 Applicants do not understand the relevance of the Examiner's comments about the addition of Mueller's polymers to the oil without first diluting them with a solvent. The issues now under consideration depend upon the compositions themselves, not upon the manner in which the compositions are prepared.

20 As previously noted, it appears to Applicants that the Examiner's rejection of claims 1-5,9-12, and 20 under 35 U.S.C. 102 and 35 U.S.C. 103 are based on a construction of the claims that ignores the limitation that the SCC polymer is present in amount such that it thickens the oil. Applicants submit that since the claims in question do in fact contain that limitation, their patentability under 35 U.S.C. 102 and 103 must be  
25 determined on the basis that the limitation is indeed present, independently of any questions that may arise under 35 U.S.C. 112. The last response contains a full explanation why the claims in question are patentable over Mueller. Rather than burden the file with a repetition of that argument, Applicants ask the Examiner to regard that argument as being repeated in full in this response also. In summary, Applicants submit  
30 that the rejection of these claims under 35 U.S.C. 102 and 103 should be withdrawn, because



(1) Mueller nowhere discloses a composition in which the presence of the SCC polymer results in thickening of the oil; and

(1) Mueller's sole objective is to provide compositions in which the presence of the SCC polymer increases the pourability of the oil,

5 and it cannot be obvious to modify Mueller in a way that is directly contrary to Mueller's instructions, i.e. so as to **decrease** the pourability of the oil, as taught by Applicants, rather than to **increase** the pourability of the oil, as taught by Mueller.

### PREVIOUSLY-FILED PETITION TO ADD ADDITIONAL PRIORITY CLAIM

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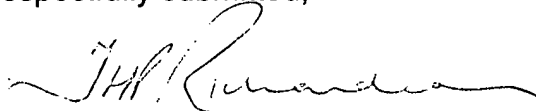
The end of the previous Reply contains a discussion of the previously-filed Petition to Add Additional Priority Claim, on which no decision has been received by Applicants. The Examiner is asked to review that discussion and the Petition, and to confirm that both priorities have now been properly claimed.

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### CONCLUSION

It is believed that this application is now in condition for allowance, and such action at an early date is earnestly requested. If, however, there are any outstanding  
20 issues that could usefully be discussed by telephone, the Examiner is asked to call the undersigned.

Respectfully submitted,



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Tel No. 650 854 630

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

5 Applicant: Bitler et al Group Art Unit: 1714  
Serial No.: 09/810,920 Examiner: Peter Szekely  
Filing Date: March 16, 2001  
10 Title: Polymeric Thickeners for Oil-containing Compositions

15 **VERSION OF AMENDED PARAGRAPHS OF THE SPECIFICATION WITH  
MARKINGS TO SHOW CHANGES REQUESTED BY THE ACCOMPANYING  
REPLY, FILED IN ACCORDANCE WITH 37 CFR 1.121(b)(1) AND (2).**

20 This paper sets out a version of the paragraphs rewritten as requested  
by the accompanying Reply, marked up to show all the changes relative to the previous  
version of the paragraphs. In this version, the changes are shown by brackets (for  
deleted matter) and underlining (for added matter).

25 1. The paragraph beginning on page 10, line 14 (with the words "The amount of the  
polymeric thickener .....") and ending on page 10, line 18 (with the words "..... often  
effective.") has been rewritten to incorporate the changes shown below

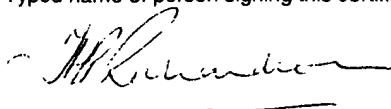
30 The polymeric thickener should be used in an amount sufficient to thicken  
the oil. It is usually unnecessary for the amount of the thickener to be more than  
10% by weight based on the weight of the oil. Smaller amounts such as 2 to 7%  
based on the weight of the oil in compositions which are free of water, and 0.5 to  
5% based on the weight of composition in water-in-oil emulsions, are often  
effective.

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mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231  
On June 22, 2002

Typed name of person signing this certificate: T. H. P. Richardson

Signature



2. The paragraph beginning on page 10, line 22 (with the words "The new polymeric thickeners.....") and ending on page 10, line 27 (with the words "..... by reference herein." has been rewritten to incorporate the changes shown below

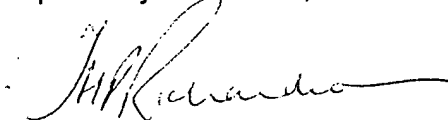
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— — The new polymeric thickeners are effective with a broad range of oils. Suitable oils are disclosed, for example, at column 3, line 37 to column 4, line 4, of U.S. Patent No. 5, 736,125, and elsewhere in the documents incorporated by reference herein. Thus the oil can be, for example, an oil  
10 selected from the group consisting of mineral oils; vaseline oils; hydrogenated polyisobutylene; triglycerides; purcellin oil; isopropyl myristate; butyl myristate; cetyl myristate; isopropyl palmitate; butyl palmitate; ethyl-2-hexyl palmitate; isopropyl stearate; butyl stearate; octyl hexadecyl stearate; isocetyl stearate; decyl oleate; hexyl laurate; propylene glycol dicaprylate, diisopropyl adipate;  
15 animal oils; silicone oils; oleyl alcohol; linoleyl alcohol; linolenyl alcohol; isostearyl alcohol; octyl dodecanol; esters derived from lanolic acid; and acetyl glycerides. For thickening silicone oils, it is preferred to use an SCC polymer containing units derived from a monomer containing silicon, for example a block copolymer containing SCC blocks and polysiloxane blocks. SCC/polysiloxane polymers of  
20 this type are described for example in WO 93/07194 and WO 00/04787. — —

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Respectfully submitted,



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Docket No. 12969-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

5

Applicant: Bitler et al

Group Art Unit: 1714

Serial No.: 09/810,920

Examiner: Peter Szekely

10 Filing Date: March 16, 2001

Title: Polymeric Thickeners for Oil-containing Compositions

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**VERSION OF AMENDED CLAIMS WITH MARKINGS TO SHOW  
CHANGES REQUESTED BY THE ACCOMPANYING REPLY, FILED IN  
ACCORDANCE WITH 37 CFR 1.121(c)(1)(ii).**

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This paper sets out a version of each of the claims rewritten as requested by the accompanying Reply (but not the claims which were unchanged or which were added by the Reply), marked up to show all the changes relative to the previous version of the claim. In this version,

25

- (i) a parenthetical expression (which is the same as the parenthetical expression in the clean version of claims set out in the Reply) follows the claim number and indicates the status of the claim as amended, and
- (ii) the changes are shown by brackets (for deleted matter) and underlining (for added matter).

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32. (Amended) A thickened oil composition which comprises

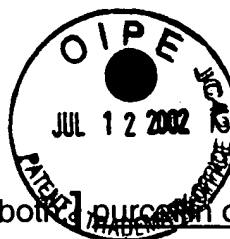
- (1) an oil selected from selected from the group consisting of mineral oils; vaseline oils; hydrogenated polyisobutylene; triglycerides; [oily esters derived

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I hereby certify that this correspondence is being deposited with United States Postal Service with sufficient postage as first-class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231  
On June 22, 2002

Typed name of person signing this certificate: T. H. P. Richardson

Signature



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from a long chain acid or a long chain alcohol or both; purceton oil; isopropyl myristate; butyl myristate; cetyl myristate; isopropyl palmitate; butyl palmitate; ethyl-2-hexyl palmitate; isopropyl stearate; butyl stearate; octyl hexadecyl stearate; isocetyl stearate; decyl oleate; hexyl laurate; propylene glycol

5 dicaprylate, diisopropyl adipate; animal oils; silicone oils; [long chain alcohols;]

oleyl alcohol; linoleyl alcohol; linolenyl alcohol; isostearyl alcohol; octyl dodecanol; esters derived from lanolic acid; and acetyl glycerides; and

(2) uniformly dispersed in the oil as a crystallized solid, a side chain crystalline (SCC) polymer which is substantially free of fluorine atoms, carboxylic acid groups, carboxylic acid salt groups, sulfonic acid groups, sulfonic acid salt groups, amido groups, pyrrolidino groups and imidazole groups.

45. (Amended) A thickened oil composition which comprises

(1) an oil, and

15 (2) uniformly dispersed in the oil as a crystallized solid, a side chain

crystalline (SCC) polymer which [(a)] consists essentially of

(i) 70-99% by weight of repeating units derived from at least one n-alkyl acrylate or methacrylate ester in which the n-alkyl group contains 16 to 50 carbon atoms,

20 (ii) 1-30% by weight of repeating units derived from hydroxyethyl acrylate, and

(iii) 0-29% by weight of repeating units derived from at least one acrylate or methacrylate ester in which the ester group contains an unsubstituted alkyl group containing less than 16 carbon atoms.

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